

shp July 20

Work Order ID 87033

87033

Page 1

10-12 8:23:30 AM

Item ID: D206-642-351

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Replacement Skidtube

Start Date: 10/07/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 23/07/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: MLJ Date: 12/07/10 Tooling:

Run Start *NR1*

QC: Date: SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
----------	--------------

D4361	A
-------	---

IIN-D206-642	O
--------------	---

100

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile and create labels per PPP D206-642-351 CHG001

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Order ID 87033

10-12 8:23:30 AM

87033

Page 2

Item ID: D206-642-351

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Replacement Skidtube

Stop *NS2*

Start Date: 10/07/2012 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 23/07/2012 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:

Run Start *NR1*

QC: Date: SPC (Y/N): Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110	Skidtubes	0.00							
110	Skidtubes								
Skidtubes	Memo	0.00							
	1-Deburr Fwd edge of tube								
	2-Remove ridge on inside of Fwd edge of tubeas per Dwg D4361								
	3-Weld Fwd Cap as per Dwg D4361 Use aluminum rod. Grind D2647 to fit as required.								
	A/RAluminum Rod m122130/m120164								
	4-Grind weld flush to cap on top surface only.								
	5-Cut aft end to lenght as per dwg D4361								
	6-Drill pilot holes using drill Jig DT8168A and DT8168B. Most Fwd wearplate hole to be laid out manually.								
	8-Open Aft Cap Hole using # Drill Bit								
	9-Open holes for Tow Ring to Ø0.625" as per Dwg D4361, D4361-041 Drilling Detail								
	10-Remove inner indexing ridge on aft end of skidtubeas per Dwg D4361								
	11-Deburr and Blow out all chips form inside the tube								

SAD 12-07-10

SAD 12-07-10

SAD 12-07-11

SAD 12-07-10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 87033

10-12 8:23:30 AM

87033

Page 3

Item ID: D206-642-351

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Replacement Skidtube

Start Date: 10/07/2012 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 23/07/2012 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

115

QC5- Inspect part completeness to step on W/O

0.00

115

QC

Memo

0.00

Quality Control

120

Chemical Conversion Coat per QSI005 4.1

0.00

120

HandFinish

Memo

0.00

Hand Finishing

125

QC5- Inspect Part Finish

0.00

125

QC

Memo

0.00


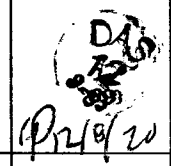
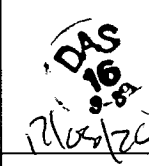
Quality Control

8.26.14

1 MG 12-7-12



DP 12-7-16
PTD

Dart Aerospace Ltd

W/O: 87033		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
12-7-16	125	Should need QC?		12-7-16				

Part No: D 200-642-351 PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
								

NOTE: Date & initial all entries

Work Order ID 87033

July-10-12 8:23:30 AM

87033

Page 4

Item ID: D206-642-351

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Replacement Skidtube

Stop ***NS2***

Start Date: 10/07/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 23/07/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:

Run Start ***NR1***

QC: Date: SPC (Y/N): Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							
130	Skidtubes								
Skidtubes	Memo	0.00							
Skidtubes	1-Open holes to finished size as per Dwg D4361, D4361-041 Drilling Detail								
	2-Countersink crossbolt spacer holes as per Dwg D4361								
	3-Deburr. Blow out chips. Grind alodine off around crossbolt spacer.								
	4-Bond D2654-5 web in place as per QSI 015, Ensure holes line up. Allow 12 Hrs. cure time								
	Start Date: <u>12-7-16</u> Time: <u>8:45</u>								
	Finish Date: <u>12-07-17</u> Time: <u>7:30</u>								
	A/R Sikaflex-291: <u>12/13/17</u> M121409								
	Sikaflex expiry date: <u>12/13/17</u> 12/31/13								
140	QC5- Inspect part completeness to step on W/O	0.00							
140									
QC	Memo	0.00							
Quality Control									

CF
12-7-16

✓ 0  12/07/17

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 87033

July-10-12 8:23:30 AM

87033

Page 5

Item ID: D206-642-351

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Replacement Skidtube

Stop ***NS2***

Start Date: 10/07/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 23/07/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

150

0.00

150

Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Prep per QSI 005 and Insert cross bolt spacers D2649. Weld as per QSI 004 and Dwg D4361. Remember to back drill each hole to 0.25" before welding the other side. Use aluminum rod.
A/RAluminum Rod M120164 BE 12/07/17

2-Grind welds flush as per Dwg D4361 SAD 12.07-17

3-Counterbore 5/16" x 0.750" deep as per Dwg D4361. Deburr DP 12-7-25

4- Install nut plate as per dwg - DC 12/07/25

770

170

QC10- Inspect visual per QSI004- ground welds

0.00

170

QC

Memo

0.00

Quality Control


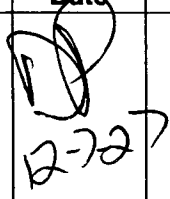



5/17/13

Dart Aerospace Ltd

W/O: 87033		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D706-642-351 PAR #: _____ Fault Category: Landing Gear / Skid turn NCR: Yes No DQA: Aut Date: 12/08/22
 Resolution: Acceptable Disposition: Acceptable QA: N/C Closed: IC Date: 8/23/12

NCR: 12-1740		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
12/14/22	# 150.3	Found at inspection that the counter bore was too deep measured 0.820" to 0.630" Should be 0.75" \pm 0.030"	 R. J. M.	Acceptable per Email sent from Chris P to David S. July 27 th , 2012 see Attach.	 12-727	DAS 16 2-89 12/14/20	DAS 16 2-89 12/8/20	DAS 16 2-89 12/14/22
		R.C. Set up for counter bore was incorrect. open operator Error <u>LOG</u> INSTRUCTIONS / INFORMATION						

NOTE: Date & initial all entries

Eric Downing

From: Chris Provencal <cprovencal@dartaero.com>
Sent: Friday, July 27, 2012 11:15 AM
To: David Shepherd
Cc: psmith@dartaero.com; 'L Lacelle'; 'Isam El-Kassis'; 'Eric Downing'; Mike Petsche
Subject: RE: D206 skids

David,

The affected tubes are several float (-541) and regular tubes (-351). The float holes aren't counterbored and are unaffected. As the crossbolt spacers are not loaded except in bearing by the bushings, the additional length of the counterbore would have no effect on the strength of the crossbolt spacer from regular loading conditions. There would be a small reduction in buckling strength from sideways crushing loads, which doesn't represent a critical loading condition per the FAR requirements.

I will accept these tubes based on that rational. This email is an FYI in case you have an objection.

-Chris

From: Eric Downing [<mailto:edowning@dartaero.com>]
Sent: Friday, July 27, 2012 8:34 AM
To: 'Provencal, Chris'
Cc: psmith@dartaero.com; 'L Lacelle'; Isam El-Kassis
Subject: D206 skids
Importance: High

Good morning Chris

I need to see you as soon as you read this message I have found the counter bore depth on QTYX9 D206 skids are too deep. I am measuring 0.820"-0.830" and it should be at 0.75+/-0.030". I have 6 in progress and 3 already painted and assembled. What happened was that I had inspected some 206 skids and found that the counter bore was correct but I didn't know that they had changed the counter bore part way through the day and was not set up correctly so I had assumed that they were still the same depth and when I measured the first one today like I do always the depth was not correct at all.

I need to know if this will be acceptable or that we need to rework all the skids.

Thanks
Eric Downing
QC Corrdinator
Dart Aerospace LTD

Work Order ID 87033

87033

Page 6

July-10-12 8:23:30 AM

Item ID: D206-642-351

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Replacement Skidtube

Stop *NS2*

Start Date: 10/07/2012 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 23/07/2012 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	QC5- Inspect part completeness to step on W/O	0.00							
180									
QC	Memo	0.00							
Quality Control									
190	Pressure Wash per QSI005 4.3	0.00							
190									
HandFinish	Memo	0.00							
Hand Finishing	Brush alodine tube on crossbolt spacer area, do not acid etch, do not dip tube in tank.								
200	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
200									
Powdercoat	Memo	0.00							
Powder Coating	START TIME: 1:20 OVEN TEMPERATURE: 320°F FINISH TIME: 1:50								

DAS 16 8-83 12/14/30

1 7/6 12-7-30

IX 12/27/30

W121841

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 87033

87033

Page 7

July-10-12 8:23:30 AM

Item ID: D206-642-351

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Replacement Skidtube

Stop ***NS2***

Start Date: 10/07/2012 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 23/07/2012 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	QC3- Inspect Part Finish	0.00							
210									
QC	Memo	0.00				1	5	2P	12/07/30
Quality Control									
220		0.00							
220	HandFinishing								
HandFinish	Memo	0.00				1	5	2P	12/07/30
Hand Finishing	1-Install wearplates as per dwg D4361.								
	2-Install O-Rings D2651-3 on plugs D2651-1 with Petroleum Jelly and install plugs as per Dwg D4361. Clean excess adhesive								
	3-Install MS27039-4-06 Screw								
	4-Inspect for foreign object per QSI 024								
	5-Install D2646 Aft Cap and seal with SikaflexClean excess adhesive A/RSikaflex-291 <u>122130</u> Sikaflex expiry date: <u>14/03</u>								
	6-Wing Walk as per Dwg D4361-041 and QSI 005 4.4 Batch: <u>121613</u>								

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 87033

87033

Page 8

July-10-12 8:23:30 AM

Item ID: D206-642-351

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Replacement Skidtube

Stop ***NS2***

Start Date: 10/07/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 23/07/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230	QC3- Inspect Part Finish	0.00							
230									
QC	Memo	0.00							
Quality Control									
240	QC5- Inspect part completeness to step on W/O	0.00							
240									
QC	Memo	0.00							
Quality Control									
250	Packaging	0.00							
250									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D206-642-351								
	Location: <u>82</u>								
	PPP Rev: _____								

DAS
16
9-89 12/4/31

DAS
16
9-89 12/4/31

PRD 26994

12/8/14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 87033***87033***

Page 9

July-10-12 8:23:30 AM

Item ID: D206-642-351

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: Replacement Skidtube

Stop ***NS2***

Start Date: 10/07/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 23/07/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

260

QC21- Final Inspection - Work Order Release

0.00

260

QC

Memo

0.00

Quality Control

MLJ 12108117

ME
1209-17

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

July-10-12 8:23:35 AM

Page 1

Work Order ID: 87033

87033

Parent Item: D206-642-351

D206-642-351

Parent Item Name: Replacement Skidtube

Start Date: 10/07/2012

Required Date: 23/07/2012

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A NEW ISSUE 12-07-09 JLM VERIFIED BY:

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2600-1-160

Manufactured

No

Each

55.0000

1

D2600-1-160

Extrusion Round 3" 206

**

SAP 12-07-10

Location

Loc Qty

Loc Code

LG

55

43969

2

59875

1

68284

4

76913

48

86331

0

Each

7.0000

1

D2654-5

Manufactured

No

D2654-5

Web

**

1 CF 12-7-16

Location

Loc Qty

Loc Code

LG

7

82128

1

85209

6

D2620
B / D 12-7-11

B87049
B87409

①

B87518

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

July-10-12 8:23:35 AM

Page 2

Work Order ID: 87033

87033

Parent Item: D206-642-351

D206-642-351

Parent Item Name: Replacement Skidtube

Start Date: 10/07/2012

Required Date: 23/07/2012

Start Qty: 1.00

Required Qty: 1.00

D2646

Manufactured No

Each

81.0000

1

D2646

Aft Cap

**

1 DP 12/07/30

Location

Loc Qty

Loc Code

FP002

81

62678

5

68280

5

70945

1

71070

2

73294

1

73825

2

79562

4

81974

28

85443 ✓

33

D2647

Manufactured No

Each

65.0000

1

D2647

Cap

**

BE 12/07/10

Location

Loc Qty

Loc Code

LG002

65

75482

3

79563

62

July-10-12 8:23:35 AM

Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

July-10-12 8:23:35 AM

Page 3

Work Order ID: 87033

87033

Parent Item: D206-642-351

D206-642-351

Parent Item Name: Replacement Skidtube

Start Date: 10/07/2012

Required Date: 23/07/2012

Start Qty: 1.00

Required Qty: 1.00

D2649

Manufactured No

Each

351.0000

23

D2649

**

Cross Bolt Spacer

BE12/07/12

Location	Loc Qty	Loc Code
LG	208	
77574	2	
79502	8	
79503	5	
79564	4	
79565	7	
85586	182	23
LG001	143	
65317	1	
68224	2	
68507	11	
71355	2	
72704	2	
72841	11	
73390	8	
73857	21	
73858	53	
73859	4	
73860	4	
78020	6	
78583	2	
79566	16	

July-10-12 8:23:35 AM

Shop Packet Print

Page 3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

July-10-12 8:23:35 AM

Page 4

Work Order ID: 87033

Parent Item: D206-642-351

Parent Item Name: Replacement Skidtube

87033

D206-642-351

Start Date: 10/07/2012

Required Date: 23/07/2012

Start Qty: 1.00

Required Qty: 1.00

D2651-1

Manufactured No

Each

474.0000

4

D2651-1

Plug

**

4

SP

12/07/30

Location

Loc Qty

Loc Code

FP

200

FP001

425

57869

1

66445

10

69018

2

70827

2

70839

8

71037

8

77559

30

78584

18

79234

46

FP002

203

85456 ✓

203

FP-A

-354

77559

1

78124

5

81954

36

82573

104

D2651-3

Manufactured No

Each

1,016.000

4

D2651-3

O-Ring

**

4

SP

12/07/30

Location

Loc Qty

Loc Code

FP001

16

61962

12

73828

4

FP-A

1000

78126 ✓

1000

July-10-12 8:23:35 AM

Shop Packet Print

Page 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

July-10-12 8:23:35 AM

Page 5

Work Order ID: 87033

87033

Parent Item: D206-642-351

D206-642-351

Parent Item Name: Replacement Skidtube

Start Date: 10/07/2012

Required Date: 23/07/2012

Start Qty: 1.00

Required Qty: 1.00

D2680-041

Manufactured No

Each

74.0000

1

D2680-041

**

Nut Plate

DC 12/07/25

Location

Loc Qty

Loc Code

ST013

74

78016

74

Each

332.0000

18

**

18

2P

12/07/30

D3873-1

Manufactured No

D3873-1

Bushing

Location

Loc Qty

Loc Code

ST057

6

79561

6

ST067

326

64760

1

68247

4

73829

19

73830

2

76791 ✓

280

79560

20

D4364-041

Manufactured No

Each

0.0000

1

D4364-041

**

Fwd Wearplate Assembly

1

2P

12/07/30

D4364-043

Manufactured No

Each

0.0000

1

D4364-043

**

Aft Wearplate Assembly

1

2P

12/07/30

87806 ✓

87540 ✓

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

July-10-12 8:23:35 AM

Page 6

Work Order ID: 87033

Parent Item: D206-642-351

Parent Item Name: Replacement Skidtube

87033

D206-642-351

Start Date: 10/07/2012

Required Date: 23/07/2012

Start Qty: 1.00

Required Qty: 1.00

AN3-36A

Purchased

No

Each

222.0000

AN3-36A

Bolt

**

9

(2P) 12/07/30

LocationLoc QtyLoc Code

ST353

222

15072

70

15924 ✓

152

NAS1149C0332R

Purchased

No

Each

9,080.000

NAS1149C0332R

Washer

**

9

(2P) 12/07/30

LocationLoc QtyLoc Code

297

9058

122063 ✓

9058

ST297

22

121509

22

MS21042-3

Purchased

No

Each

0.0000

MS21042-3

USE MS21042L3

NAS1149D0332J

Purchased

No

Each

1,517.000

NAS1149D0332J

Washer

**

2

(2P) 12/07/30

LocationLoc QtyLoc Code

ST297

930

121708

930

ST298

587

105793

12

110985

4

117087

89

119042

16

119717

103

120644

7

121011 ✓

356

July-10-12 8:23:35 AM

Shop Packet Print

Page 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

July-10-12 8:23:35 AM

Page 7

Work Order ID: 87033

Parent Item: D206-642-351

Parent Item Name: Replacement Skidtube

87033

D206-642-351

Start Date: 10/07/2012

Required Date: 23/07/2012

Start Qty: 1.00

Required Qty: 1.00

CCR264SS3-3

Purchased

No

Each

320.0000

2

CCR264SS3-3

Cherry Rivet

**

De 12/07/25

Location

Loc Qty

Loc Code

ST331

320

113973

2

117849

77

119017

241

(2)

CR3212-4-3

Purchased

No

Each

0.0000

2

CR3212-4-3

Cherry Rivet

**

(2) De 12/07/25

MS27039-1-08

Purchased

No

Each

1,168.000

2

MS27039-1-08

Screw

**

2 (28) 12/07/30

Location

Loc Qty

Loc Code

ST291

1168

117423

81

119075

1

120308

166

121011

43

121243

500

121708 ✓

377

MS27039-4-06

Purchased

No

Each

114.0000

1

MS27039-4-06

Screw

**

1 (28) 12/07/30

Location

Loc Qty

Loc Code

ST292

114

119075 ✓

114

July-10-12 8:23:35 AM

Shop Packet Print

Page 7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

July-10-12 8:23:35 AM

Page 8

Work Order ID: 87033

87033

Parent Item: D206-642-351

D206-642-351

Parent Item Name: Replacement Skidtube

Start Date: 10/07/2012

Required Date: 23/07/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1149D0463J

Purchased

No

Each

1,946.000

1

NAS1149D0463.I

Washer

**

1

DP

12/07/30

Location

Loc Qty

Loc Code

ST298	122441✓	89
104746		3
116805		0
119097		27
121255		48
121708		11
ST299		1854
121912		1854
ST351		3
107321		3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

.QTY -041	QTY -043	PART NUMBER	DESCRIPTION
X		D4361-041	SKIDTUBE ASSY
	X	D4361-043	SKIDTUBE ASSY
1	1	D2600-1-160	EXTRUSION
1		D2654-5	WEB
	1	D2654-7	WEB
1	1	D2646	AFT CAP
1	1	D2647	CAP
23	26	D2649	CROSS BOLT SPACER
4	8	D2651-1	PLUG
4	8	D2651-3	O-RING
1	1	D2680-041	NUT PLATE
18	20	D3873-1	BUSHING
1		D4364-041	FWD WEARPLATE ASSY
1		D4364-043	AFT WEARPLATE ASSY
	1	D4366-041	FWD WEARPLATE ASSY
	1	D4366-043	AFT WEARPLATE ASSY
9	10	AN3-36A	BOLT
9	10	NAS1149C0332R	WASHER (OR AN960C10L)
9	10	MS21042-3	NUT
2	2	NAS1149D0332J	WASHER (OR AN960JD10L)
2	2	CCR264SS3-3	RIVET
2	2	CR3212-4-03	RIVET
2	2	MS27039-1-08	SCREW
1	1	MS27039-4-06	SCREW
1	1	NAS1149D0463J	WASHER (OR AN960JD416)

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 87033 MCT
12/07/10

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: -CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D2654-5/-7 WEB
-POWDER COAT WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
-BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D4361-041 = 37.5 LBS
D4361-043 = 44.3 LBS
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE.
A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 10) BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015
- 11) INSERT D2651-1 PLUG C/W D2651-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE)

RELEASED
2011-09-12
JW

A	NEW ISSUE	SC	11.05.05
REV.	DESCRIPTION	BY	DATE
DESIGN	SC	DART AEROSPACE USA, INC	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED	JP	DRAWING NO.	REV. A
MFG. APPR.	JE	D4361	SHEET 1 OF 4
APPROVED	JP	TITLE	SCALE
DE APPR.	JH	206L/407 SKIDTUBE ASSEMBLIES	NTS
DATE	11.05.05	COPYRIGHT © 2011 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

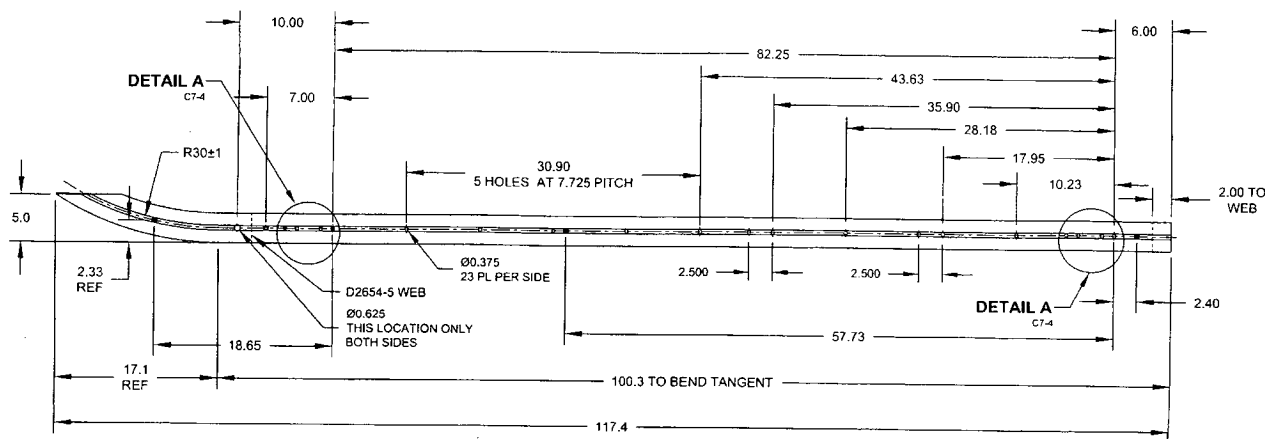
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

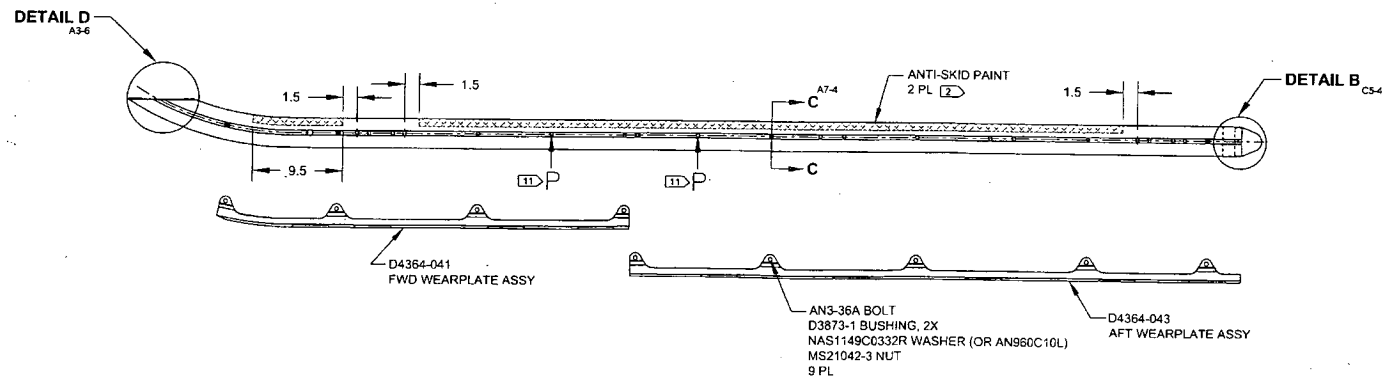
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D4361-041 BENDING/DRILLING DETAIL



D4361-041 ASSEMBLY/FINISHING DETAIL

DESIGN	SC	DART AEROSPACE USA, INC	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>[Signature]</i>	D4361	SHEET 2 OF 4
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	206L/407 SKIDTUBE ASSEMBLIES	NTS
DATE	11.05.05	<small>COPYRIGHT © 2011 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

07033

RELEASED
2011-09-12

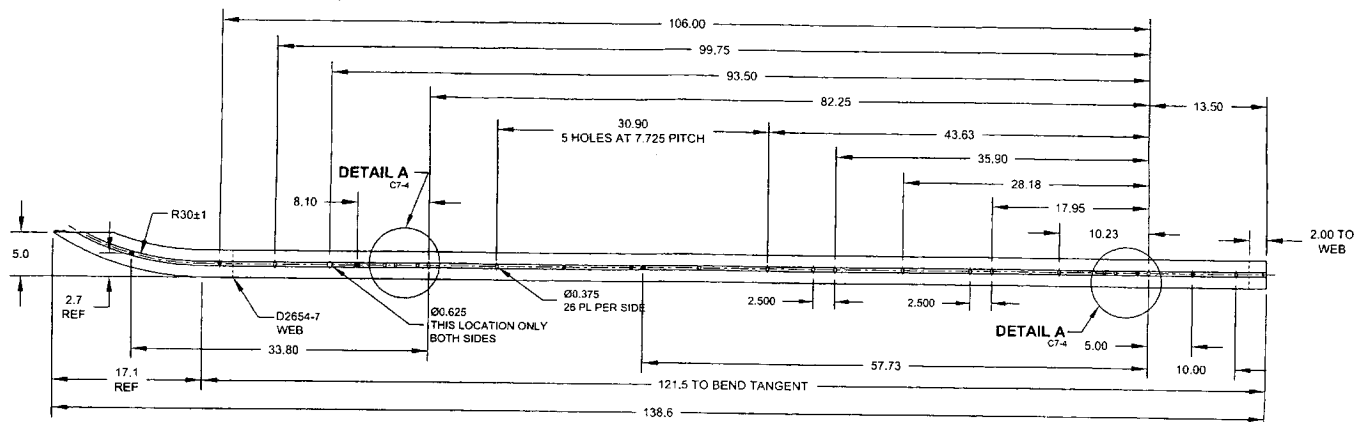
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

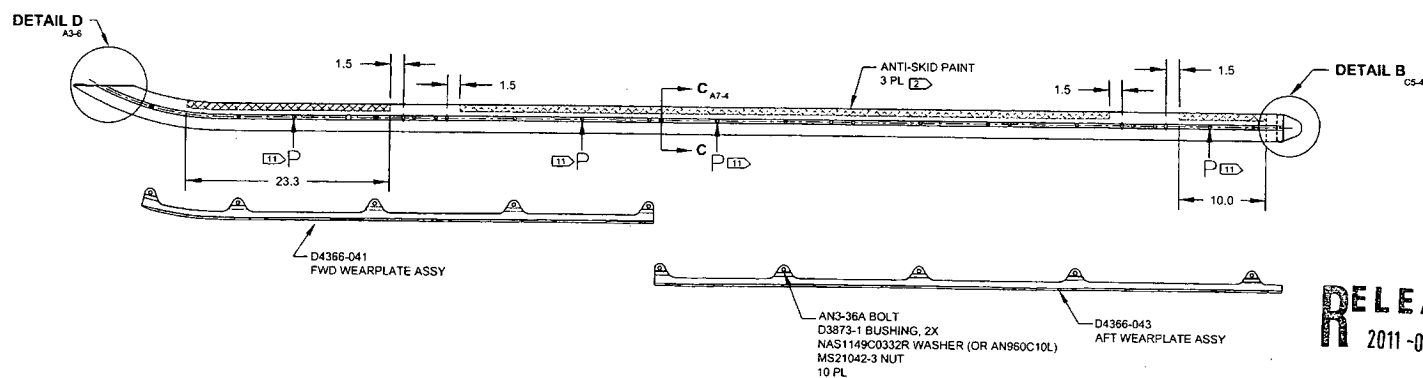
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D4361-043 BENDING/DRILL DETAIL



D4361-043 ASSEMBLY/FINISHING DETAIL

DESIGN	SC	DART AEROSPACE USA, INC PORT HADLOCK, WA	
DRAWN	SC		
CHECKED	9	DRAWING NO.	REV. A
MFG. APPR.	8	D4361	SHEET 3 OF 4
APPROVED	10	TITLE	SCALE
DE APPR.	11	206L/407 SKIDTUBE ASSEMBLIES	NTS
DATE	11.05.05	COPYRIGHT © 2011 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

RELEASED
2011-09-12

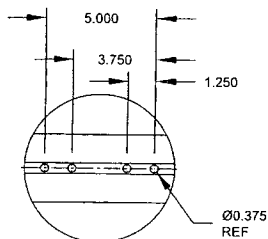
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

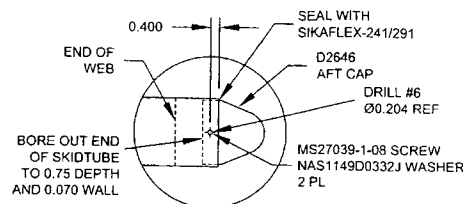
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



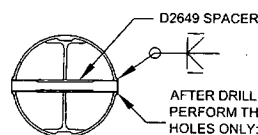
DETAIL A

C3-2
D7-2
C3-3
D6-3



DETAIL B

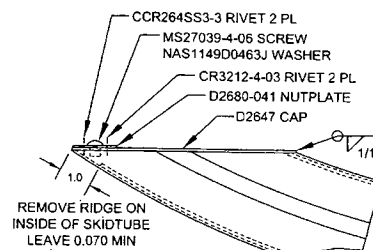
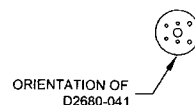
B2-2
B1-3



AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.375
HOLES ONLY:
1. CHAMFER HOLE 0.030 X 45°
2. INSERT D2649 SPACER
3. WELD INTO PLACE AND GRIND FLUSH
4. CBORE TO Ø0.313 X 0.75 DP

SECTION C-C
FOR Ø0.375 HOLES
ONLY

B4-2
B5-3



DETAIL D

B7-2
B7-3

DETAIL D NOTES:

1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D2647 (TRIM AS NECESSARY)
4. WELD D2647 IN PLACE PER DART QSI 004
5. GRIND FLUSH
6. RIVET D2680-041 NUT PLATE IN PLACE

NOTE: MASK THREADS IN D2680-041 PRIOR TO FINISH

RELEASED
R 2011-09-12
JP

DESIGN	SC	DART AEROSPACE USA, INC	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED	JP	DRAWING NO.	REV. A
MFG. APPR.	BE	D4361	SHEET 4 OF 4
APPROVED	JP	TITLE	SCALE
DE APPR.	JP	206L/407 SKIDTUBE ASSEMBLIES	NTS
DATE	11.05.05	COPYRIGHT © 2011 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 299

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job #: B85361
Part #: A206-642-541
Description: Skid
Welding Process: Tig[☒] Mig[☐]
Base material: Alum.
Current: AC[☒] DC[☐]

TEST REQUIREMENTS AND RESULTS

Visual:	pass[<input checked="" type="checkbox"/>]	fail[<input type="checkbox"/>]
Incomplete Penetration:	pass[<input checked="" type="checkbox"/>]	fail[<input type="checkbox"/>]
Incomplete Fusion:	pass[<input checked="" type="checkbox"/>]	fail[<input type="checkbox"/>]
Cracks:	pass[<input checked="" type="checkbox"/>]	fail[<input type="checkbox"/>]
Overlap (cold lap):	pass[<input checked="" type="checkbox"/>]	fail[<input type="checkbox"/>]
Undercut:	pass[<input checked="" type="checkbox"/>]	fail[<input type="checkbox"/>]
Pin holes:	pass[<input checked="" type="checkbox"/>]	fail[<input type="checkbox"/>]
Porosity (surface):	pass[<input checked="" type="checkbox"/>]	fail[<input type="checkbox"/>]
Coloration:	pass[<input checked="" type="checkbox"/>]	fail[<input type="checkbox"/>]
Burn through:	pass[<input checked="" type="checkbox"/>]	fail[<input type="checkbox"/>]

Qualifier David Jewel Date of Test Coupon 12-07-26
Welder Barclay Elliott Date of Test Coupon 12-07-26

The above named individual is qualified in accordance with AWS D17.1.2001 to weld